

SIM TIME AND FREQUENCY METROLOGY COURSE
from February 4th to February 7th, 2008
INTI, Buenos Aires, Argentina

Monday February 4th

	Duration / hours	TOPIC
8:30 - 09:30	1	MRA y CMC's in Time and Frequency. <i>Joaquín Valdés, INTI . 1 hour</i>
9:30 - 10:30	1	*A brief historic perspective of the time measurement * The second and the SI. <i>Mauricio López, CENAM. 1 hour</i>
10:30 - 10:45	0.25	Coffee break
10:45 - 12:30	2	General concepts of the Time and Frequency Metrology. <i>Mike Lombardi, NIST. 2 hours</i>
12:30 - 13:30	1	Lunch
13:30 - 15:00	1	*Quartz Oscillators. <i>Mauricio López, CENAM. 1 hour</i>
	0.5	* Cs clocks. <i>Mauricio López, CENAM. 1/2 hour</i>
15:00 - 15:15	0.25	Coffee break
15:15 - 16:45	0.5	*Cs Clocks. <i>Mauricio López, CENAM. 1/2 hour</i>
	1	*Rb Oscillators. <i>Mauricio López, CENAM. 1 hour</i>

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Tuesday February 5th

	Duration / hours	TOPIC
8:30 - 09:30	1	*Hydrogen Oscillators. <i>Mauricio López, CENAM. 1 hour</i>
09:30 - 10:30	1	*The Global Positioning System. <i>Mike Lombardi, NIST. 1 hour</i>
10:30 - 10:45	0.25	Coffee break
10:45 - 12:45	2	*The Global Positioning System. <i>Mike Lombardi, NIST. 2 hours</i>
12:45 - 13:45	1	Lunch
13:45 - 15:45	2	*Measurements in the time domain. <i>Francisco Jiménez, CENAM. 2 hours</i> Frequency generation and frequency measurement ·Direct measurements ·Beat frequency measurement (single frequency mixer) ·Double frequency mixer
15:45 - 16:00	0.25	Coffee break
16:00 - 17:00	1	*Measurements in the Frequency Domain . <i>Mauricio López, CENAM. 1 hour</i>

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Wednesday February 6th

	Duration / hours	TOPIC
8:30 -09:30	1	* Measurements in the Frequency Domain . <i>Mauricio López, CENAM.</i> 1 hour
09:30 - 10:30	1	Statistic analysis of measurements. <i>Mauricio López, CENAM.</i> 1 hour * Allan variance
10:30 - 10:45	0.25	Coffee break
10:45 - 11:45	1	Statistic analysis of measurements. <i>Mauricio López, CENAM.</i> 1 hour * Modified Allan variance * Time variance
11:45 - 12:45	1	Time scales. <i>Ricardo Carvalho, ONRJ.</i> 1 hour * UT0, UT1, EAL, TAI, UTC
12:45 - 13:45	1	Lunch
13:45 - 14:45	2	Time scales. <i>Ricardo Carvalho, ONRJ.</i> 1 hour * Virtual clocks and y algorithms
14:45 -15:45		SIM time scales and SIM T&F comparison system . <i>Mike Lombardi, NIST.</i> 1 hour * UTC(NIST), UTC(NRC), UTC(CNM), UTC(CNMP), UTC(ONRJ), UTC(ONBA), UTC(IGMA) * SIM time and frequency comparison network in near real time

15:45 - 16:00	15'	Coffee break
16:00 - 17:00	1	Frequency combs, Mauricio López, CENAM. 1 hour

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Thursday February 7th

	Duration / hours	TOPIC
8:30 - 09:30	1	Optical clocks and the future of the unit of time of the SI. Mauricio López, CENAM. 1 hour
09:30 - 10:30	1	Report of time and frequency activities from SIM laboratories, 1 hour
10:30 - 11:00	0.5	Coffee break
11:00 - 12:00	1	Report of time and frequency activities from SIM laboratories, 1 hour
12:00 - 13:00	1	Lunch
13:00 - 14:00	1	Visit to INTI laboratories - ELECTRONICA E INFORMATICA
14:00 - 15:30	1.5	Visit to INTI laboratories- FISICA Y METROLOGIA (Time and frequency lab and SIM GPS System)

15:30

Coffee break and closure